

# ACADEMY

NEWSLETTER OF THE CALIFORNIA ACADEMY OF SCIENCES

HOME OF  
STEINHART  
AQUARIUM,  
MORRISON  
PLANETARIUM,  
NATURAL  
HISTORY  
MUSEUM

## THE DINOSAURS OF JURASSIC PARK

*"The Dinosaurs of Jurassic Park" are coming to the Academy of Sciences. This blockbuster traveling exhibit opens Oct. 12 and continues through Jan. 5 in Wattis Hall. After general admission, there will be an additional \$1 charge (members receive free priority entry).*

*The exhibit, which is organized into three sections, showcases all of the aspects that made the movie great, including scenes of the dinosaurs, the elaborate props and the science behind the fossil evidence.*

### The Jungle

Walking into "The Jungle" is like walking around in the steamy Costa Rican island where the movie "Jurassic Park" took place — just be happy that the dinosaurs only *look* real! The exhibit recreates some of the most menacing scenes from the movie, including the *Tyrannosaurus rex* attacking the sports vehicle where the crew huddled and *Velociraptors* hunting in the lush greenery. The exhibit shows the softer side of the movie, too. With an adult and cute baby *Triceratops* and a gentle *Brachiosaurus* grazing on the trees, it's hard to resist wanting your own pet dinosaur!

### The Props

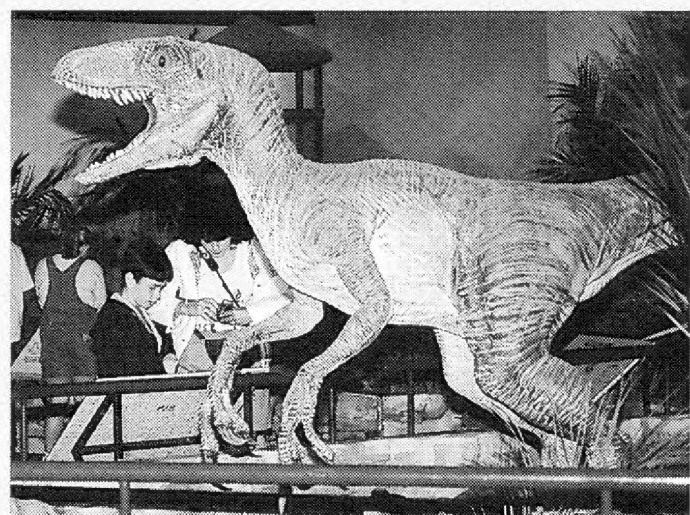
What would it be like to be on the set of "Jurassic Park"? Find out for yourself in an exhibit section filled with actual props from the movie, including the shaving cream can used to try to sneak out dinosaur embryos, storyboards used by director Steven Spielberg to plan the complex action scenes, and a replica of the dinosaur egg incubator. Text and photos of the actors tell about the movie characters and contrast them with real-life scientists.

### The Fossil Evidence

What do dinosaur fossils suggest dinosaurs were really like? With only bones to determine the shapes of these animals, artist's imaginations often run wild with what dinosaurs *could* have looked like. In the movie "Jurassic Park," many of the dinosaurs' appearances or behaviors have been modified for dramatic effect. In the exhibit, these Hollywood versions are contrasted with what scientists really know.

Fossils and fossil casts of dinosaurs and ancient plants are exhibited, including skulls of a *Velociraptor*, *T. rex* and *Diplodocus*, imprints of dinosaur tracks and skin; and dinosaur eggs.

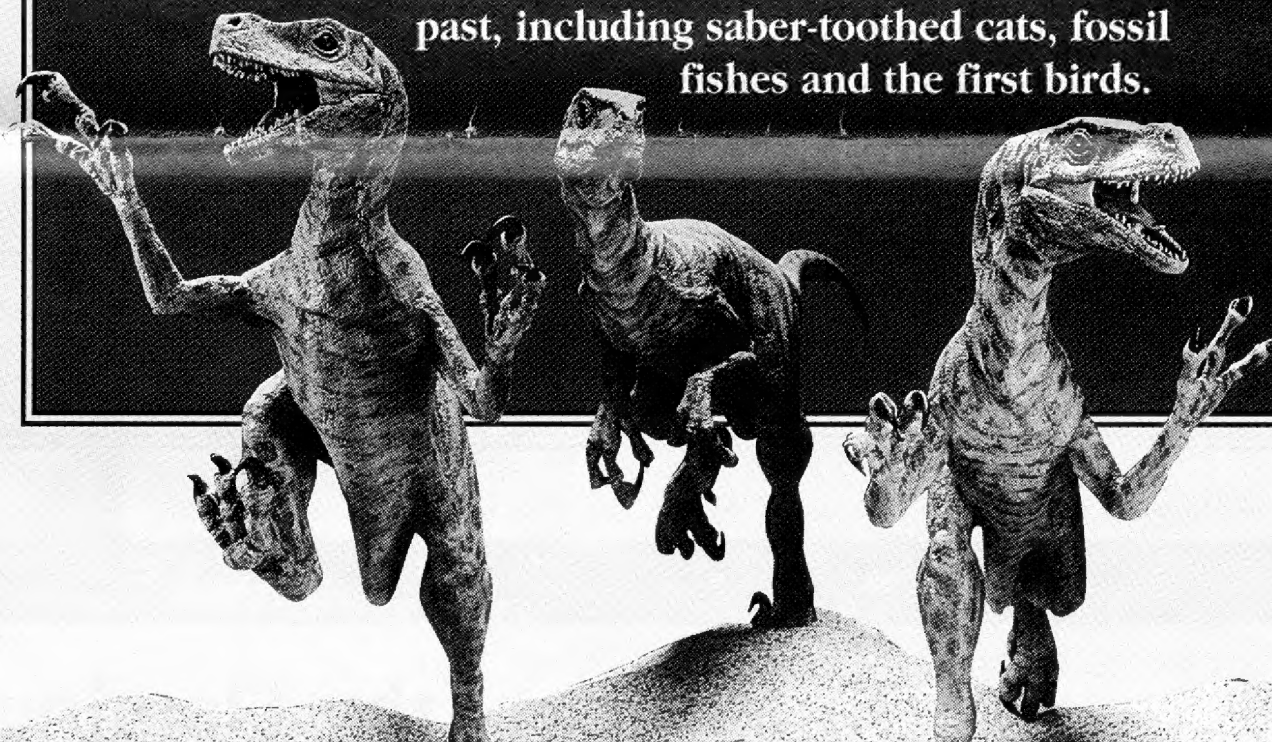
**Members:** *be the first to see the exhibit at the member's preview Oct. 12. If you haven't already R.S.V.P.'d, please call 750-7111 to check on availability.*



## DISCOVER DINOSAURS AT THE ACADEMY

While you're at the Academy of Sciences, don't forget to compare the models in "The Dinosaurs of Jurassic Park" to those in the Academy's permanent exhibit, "Life Through Time." The three-clawed *Deinonychus* poised in hunt mode in "Life Through Time" are remarkably similar to the *Velociraptors* in "The Dinosaurs of Jurassic Park" exhibit. The *Deinonychus* is a slightly larger relative of the *Velociraptor*, but both had a sickle-shaped claw on their rear foot for slashing. In reality, *Velociraptors* were about the same size as modern wolves, but the filmmakers made them larger, about the size of *Deinonychus*, to appear more menacing.

More than just dinosaurs, "Life Through Time" displays many of the fascinating creatures that lived in our Earth's past, including saber-toothed cats, fossil fishes and the first birds.



## FACT VS. FICTION

**"I think it's important to remember that Jurassic Park is fiction. It's fantasy." — Michael Crichton**

Michael Crichton's best-selling novel became a blockbuster movie. While the movie spurred a lot of interest in dinosaur science, and even DNA cloning, the movie also lead some people to wonder what is real and what is fiction. Part of the goal of the exhibit, "The Dinosaurs of Jurassic Park", is to clarify between fact and fiction.

### Movie

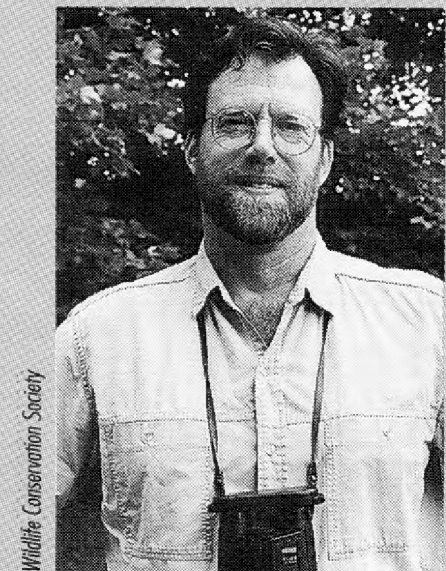
### Science

- A.** The *Velociraptor* in "Jurassic Park" was an extremely intelligent, scheming pack hunter able to open doors and gauge when an electric fence was working.
- B.** The deceptively and beautifully colored *Dilophosaurus* in the movie flared its neck frills and spit a stream of toxic venom to blind and paralyze its prey.
- C.** When Drs. Sattler and Grant were digging for fossils before being whisked away to the island theme park, they found neatly intact, full-body fossils in a fossil bed.
- D.** Dr. Grant, Lex and Timmy were able to escape the wrath of the great *T. rex* by holding very still so the beast could not see them.

- A.** While scientists agree they were indeed hunters, the fossils seem to indicate that these beasts were no more intelligent than today's average ostrich. Scientists do not know if *Velociraptor* was a group hunter or not.
- B.** There is no fossil evidence to support that the *Dilophosaurus* could spit, or that it had neck frills.
- C.** Most fossil beds reveal a jumbled mound of bones, often making it difficult to figure out if the bones all belong to the same creature, let alone what kind of creature it was.
- D.** There is no fossil evidence to suggest that the *T. rex* relied on movement to locate its prey.



# Conservation Leadership: Is the U.S. Still a Major Player?



Dr. William Weber

## THE WILDLIFE TALKS, CO-SPONSORED BY CALIFORNIA ACADEMY OF SCIENCES & WILDLIFE CONSERVATION SOCIETY

The creation of Yellowstone National Park in 1872 spawned a keen interest in preserving and protecting the natural wonders of the American frontier. This reserve — the world's first — has since inspired the founding of more than 5,000 comparable parks and protected areas.

However, according to Dr. William Weber, deputy director of international programs for the Wildlife Conservation Society, there are signs that the United States is retreating from its historic commitment to conservation. Recent debates over the Endangered Species Act and the reintroduction of prey species, as well as industry threats to our national forests and parks, now jeopardize more than a century of conservation leadership.

In an effort to reverse this trend, Weber, who has 22 years of international conservation experience, has recently come back to North America. Among other initiatives, Weber is co-founder of the successful Mountain Gorilla Project in Rwanda, a program he developed during his nine-year stay in Africa.

Weber will discuss the endangered status of the U.S. conservation movement, and its global implications. He will draw examples from Africa, Asia, Latin America and the United States. A cocktail reception will enable you to meet Weber prior to the lecture.

Oct. 22 — 7:30 p.m. (6:30 p.m. reception)

Lecture: \$6 members/\$10 nonmembers

Reception and Lecture: \$36 members/\$45 nonmembers

See below for series information

Series tickets for all four lectures are available. Lecture only series tickets are \$18 members/\$30 nonmembers. Reception and lecture series tickets are \$100 members/\$145 nonmembers. In addition to Weber, The Wildlife Talks series includes Dr. Gichohi on "Learning to Live With Wildlife," Jan. 28; Drs. Kinnaird and O'Brien on "Saving Sumatra," Apr. 8; and Dr. Carr III on "Networking With Nations," Jun. 10. Use order form for tickets, or call 750-7128 for more information.

## Claiming the High Ground in Central Asia

A close relative of the mighty Himalayas, the Pamir mountains straddle the long disputed frontiers of China, Pakistan, Afghanistan and the former Soviet Union. They are home to numerous mountain peoples, rare wildlife and several of the world's highest summits. Ancient Silk Road caravans of centuries past are replaced today by pastoralists, mountain farmers, smugglers and soldiers. These players compete for control in the most recent chapter of the 19th century "Great Game."

Professor Stephen Cunha will present a slide-illustrated lecture, along with maps and artifacts of the environment, people and politics of the high Pamirs, Tajikistan. Dr. Cunha is an instructor of geography at Humboldt State University.

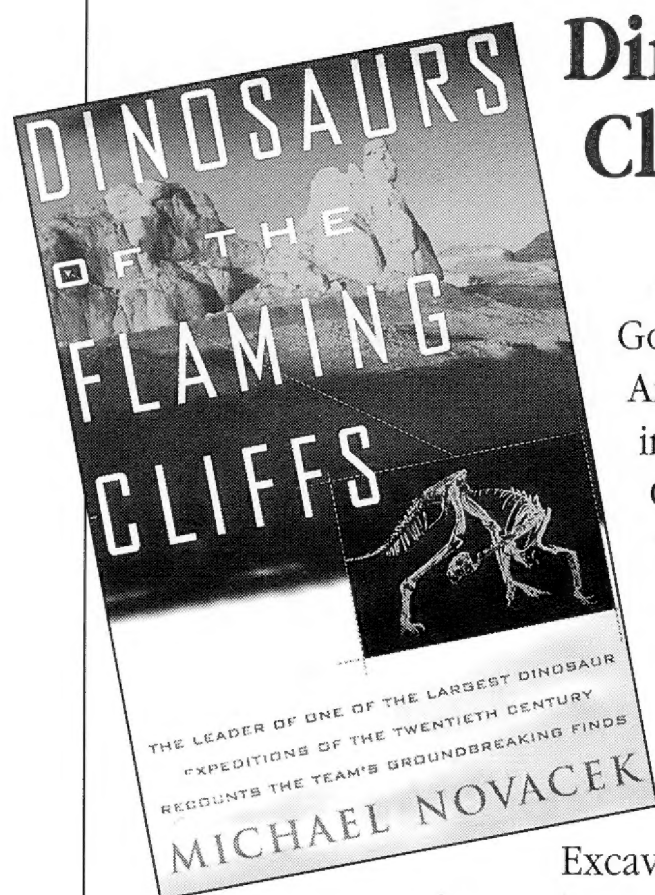
Wed., Oct. 9 — 2 p.m. & 7:30 p.m.

Please present your membership card at the Academy's front entrance and again at the auditorium. This program is a benefit of membership. Members' guests passes can be purchased prior to the lecture, at \$10 each for adults and \$5 for children.



Stephen Cunha

## SPECIAL LECTURES



## Dinosaurs of the Flaming Cliffs

Follow the day-to-day drama of the remarkable field discoveries unearthed in Mongolia's Gobi Desert. Michael Novacek, dean of science at the American Museum of Natural History, led a team of international scientists to the remote sands of the Gobi Desert on one of the greatest dinosaur expeditions of the late 20th century.

The Gobi Desert is the richest Cretaceous dinosaur fossil site in the world. Huge sandstorms apparently suffocated and then entombed scores of animals gathered at an oasis, many preserved in their death throes.

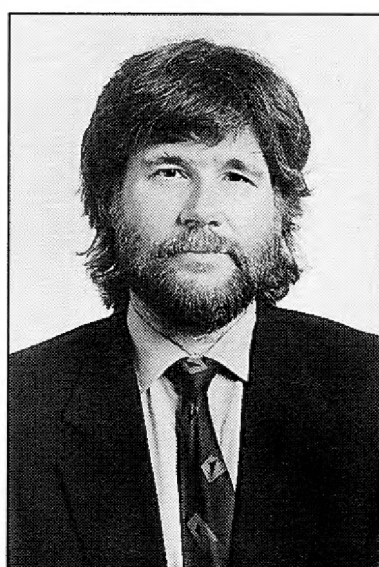
Excavating these fossils has helped to reshape our understanding of the dinosaur and early mammal era.

There will be a special viewing of the exhibit "The Dinosaurs of Jurassic Park" prior to Novacek's lecture from 6:30 p.m. to 7:15 p.m. Volunteer explainers will be stationed throughout the exhibit to provide additional information. A book-signing of Novacek's new book, *Dinosaurs of the Flaming Cliffs*, will take place after the lecture.

Thur., Oct. 24 — 7:30 p.m.

Exhibit viewing, 6:30 p.m.

\$6 members/\$10 nonmembers



Michael Novacek

AMNH Photographic Department

## American Wetlands: A Cultural Evolution

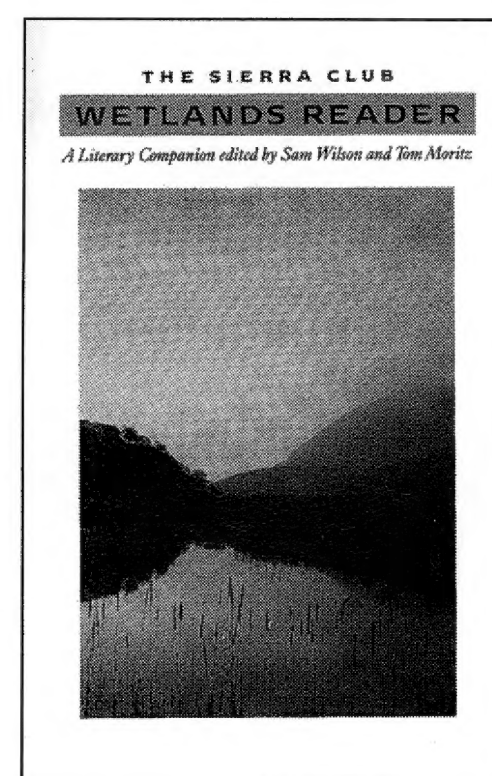
From the Everglades to Alaska, North America's wetlands comprise irreplaceable habitats for many plants and animals. Besides being a subtle indicator of the health of the natural world, this delicate ecosystem has inspired an extraordinary amount of writing. In this lecture, you'll encounter varied portraits of these fertile ecosystems as Tom Moritz and Sam Wilson share with you historical readings and slides from *The Sierra Club Wetlands Reader*, the new book they co-edited.

Moritz, the Academy's head librarian, has long been active in environmental issues and is the chair of the IUCN's (The World Conservation Union) Global Information Management Task Force. Wilson, an Academy of Sciences research associate and an environmental consultant, has worked in wetland restoration for more than 10 years.

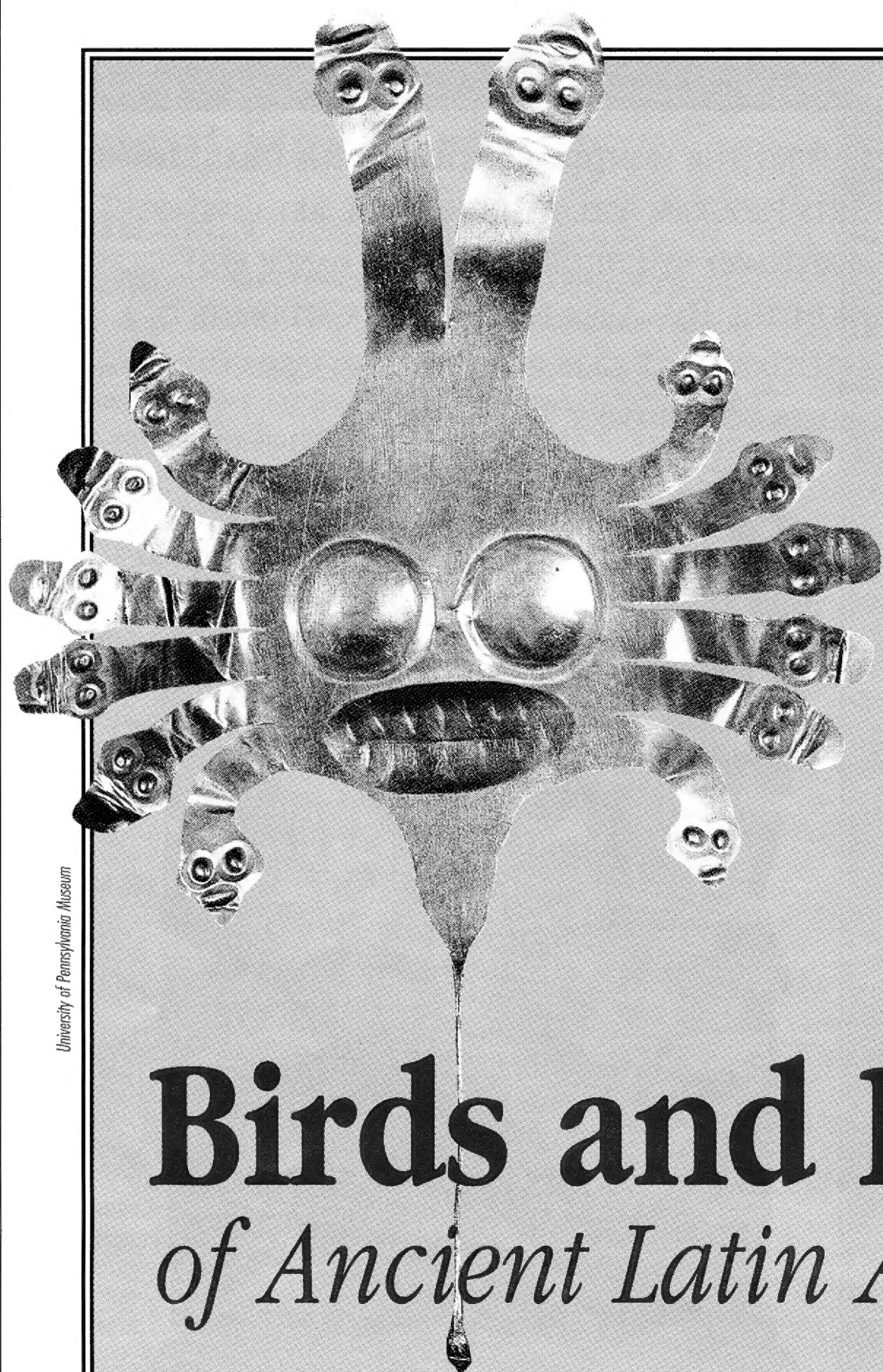
They will discuss the successes and failures of wetland restoration and creation, possible future trends in mitigation, and the positive aspect of human influence on wetland environments. A book-signing will follow the lecture.

Mon., Oct. 7 — 7:30 p.m.

\$6 members/\$10 nonmembers







University of Pennsylvania Museum

## Special Exhibit Opens Oct. 19

This fall, the Academy of Sciences will play host to half-human, half-animal creatures from ancient cultures of the Americas. "Birds and Beasts of Ancient Latin America," an exhibit of 140 spectacular pre-Columbian artifacts, features the art of ancient American cultures including the Inca, Aztec, Zapotec and Moche. Artifacts on display will include gold work, ceramics, photographs, sculpture and textiles from the collections of several collaborating museums, including the Academy of Sciences.

This vivid exhibit explores the significance of animals in the lives and beliefs of the ancient peoples of Mexico and Central and South America, circa 1000 B.C. to the Spanish conquest in the early 16th century. Found in abundance in pre-Columbian art, animal images offer insight into ancient religions, myths and concepts of the supernatural. Many of the objects were found in early archaeological expeditions around the turn of the century.

In pre-Columbian art, animal images range from the naturalistic to the mythical. Composite creatures with attributes of several animals and humans are featured in an exhibit section on "mysterious hybrids." Exhibit labels will help visitors understand how these artistic representations give us clues about what ancient peoples understood and felt about their animal companions.

The exhibit was produced in collaboration with the Academy of Sciences, the University of Pennsylvania Museum, the Florida Museum of Natural History and the Carnegie Museum of Natural History. This exhibit represents a rare opportunity to

see these objects on the West Coast. The Academy of Sciences contributed life-size photographs of amphibians, reptiles, birds and mammals, many of which were from slides taken by Academy scientists conducting research near and south of the equator.

The exhibit will be featured in Oceans Hall (near "Life Through Time" and the "Fish Roundabout" exhibits) from Oct. 19 through Jan. 1.

# Birds and Beasts of Ancient Latin America

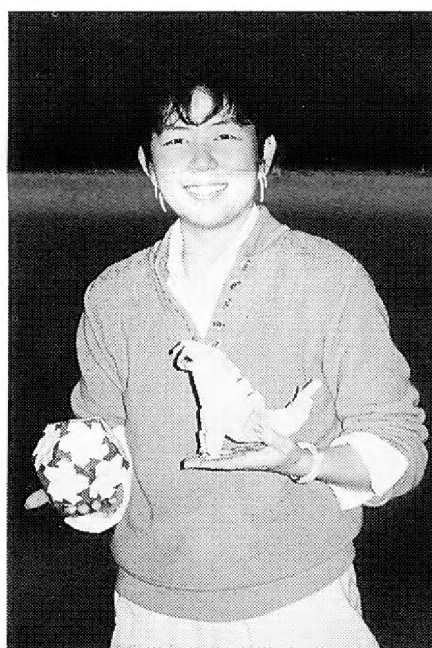
## ARTIST-IN-RESIDENCE

### Japanese Paper Folk Toys

To complement the display of Japanese folk toys in the Human Cultures Gallery, folk artist Vicky Mihara Avery demonstrates the playful art of Japanese paper toy making. As a child, Avery learned *origami* — the art of paper folding — from her grandfather, who wrote one of the first English translations of *origami* instruction. Along with *origami* animals, Avery will make *nagashibina* or casting away dolls. The verb *nagasu* means to let flow, or to shed. Every year in Japan, dolls clad in red paper kimonos are breathed on, held against the body, and set adrift in a river or the sea to take with them the sins of the previous year.

Wed., Oct. 30 — 10 a.m. to 4 p.m. (Cowell Hall)

Enjoy this day-long presentation by craft artists demonstrating and discussing their art form. Visitor participation is encouraged. Free after general admission. Call 750-7165 for more information.



Vicky Mihara Avery

## ACADEMY TRAVEL

### Trinidad, Tobago and Venezuela

Once connected to South America, the dual-island nation of Trinidad and Tobago shows a richness of flora and fauna not seen on any other Caribbean island. Bird life on Trinidad is spectacularly represented with some 425 species, many found at the remarkable Asa Wright Nature Center, an enchanting 200-acre refuge in the northern rain forest. Nearby Tobago is nearly as well endowed with bird life. In Venezuela you will stay at a 106,000-acre private wildlife sanctuary and working cattle ranch and in the southeastern part of the country you will stay at Jungle Rudy's Lodge, near Angel Falls. Botanist Dr. Frank Almeda will lead this diverse tour.

March 1-16

Cost: \$4,795 per person, plus air

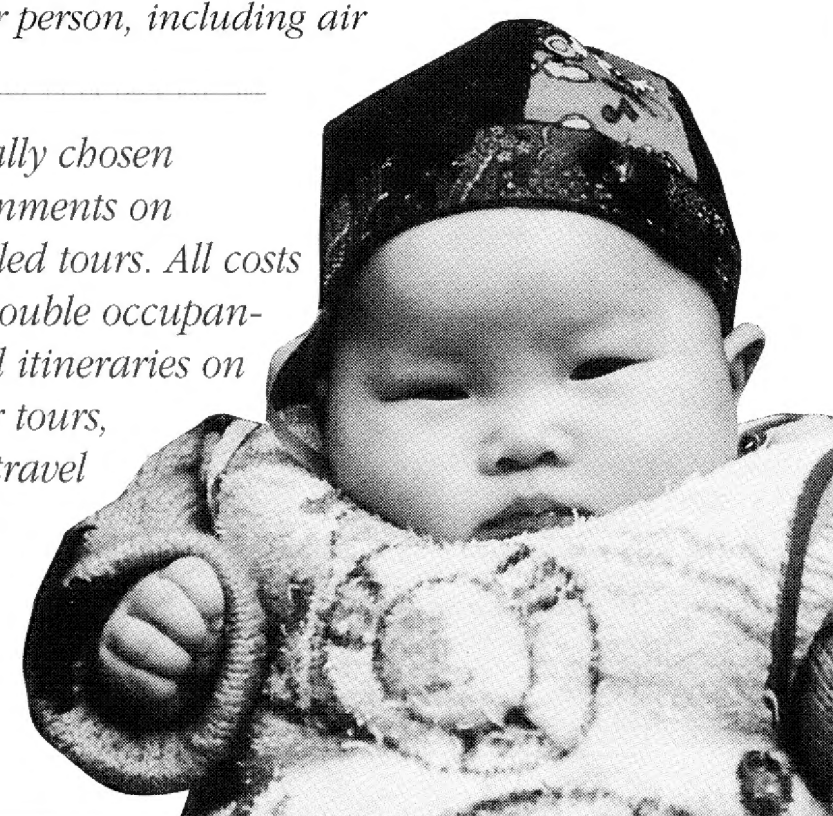
### The Natural, Cultural & Ancient Histories of China

China is a land of history and refinement unparalleled in the world. On this exclusive tour led by the Academy's Anthropology Chair, Dr. Nina Jablonski, we will experience some of China's most beautiful cities, famous sites, and rare and precious plant life in the Cangshan mountains. Beijing and the Forbidden City, Xian and the terracotta warriors, the Great Wall at Mutianyu, Kunming, Dali and Shanghai are all on this wonderful itinerary.

May 3-17

Cost: \$4,290 per person, including air

Travel to specially chosen natural environments on Academy staff-led tours. All costs are based on double occupancy. For detailed itineraries on these and other tours, please call the travel department at 750-7348.



### Jumpin' Jurassic! It's Halloween!

*T. Rex, Velociraptors and Triceratops! Oh My!*

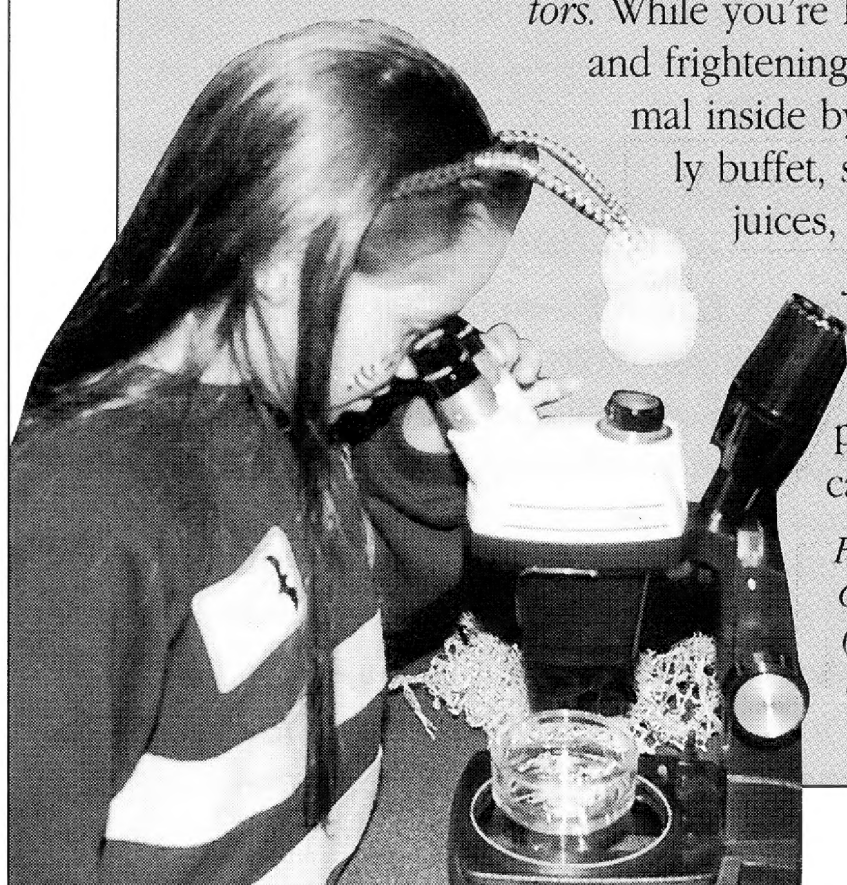
Members and their children are invited to our fifth annual members Halloween party Fri., Oct. 25 from 6:30 p.m. to 9 p.m.

During this unforgettable event, discover what lurks deep in the park — *Jurassic Park* that is. Spooky events are planned all night. You can go on an archaeological dig for your own dinosaur, make paleontological rubbings of ancient fossils (do they look like Mom or Dad?), and even hatch your own dinosaur egg — but hopefully not one of those pesky *Velociraptors*. While you're here, inspect some really old creatures and frighteningly intelligent scientists. Quell the animal inside by chomping your way through a beastly buffet, sipping aged cocktails and Jurassic juices, and pounding your feet to the beat of Jur-azzic music.

This event benefits the California Academy of Sciences. For tickets, please use the order form on back, or call 750-7477 to request an invitation.

Fri., Oct. 25 — 6:30 p.m. to 9 p.m.

Cost: \$75 adult, children are free (Children must be accompanied by an adult.)





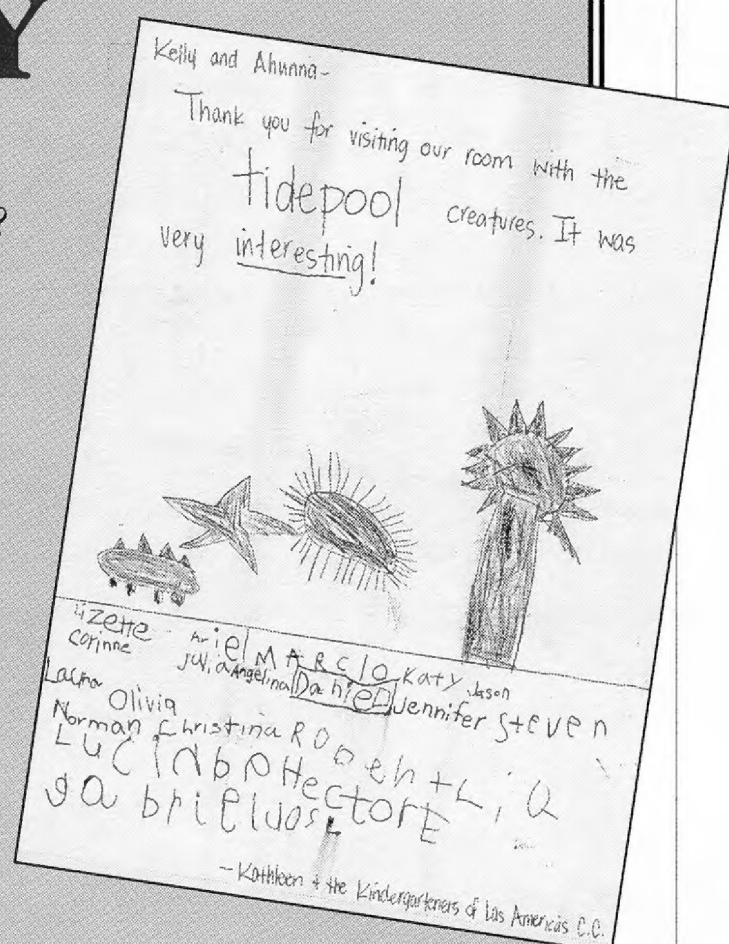
## Students and Visitors Display Their NATURAL SCIENCE CURIOSITY AND CREATIVITY

Does a visit to the Academy of Sciences leave your interest more piqued than sated? Learning about the natural world doesn't have to end in the exhibit hall. The Academy of Sciences' librarians, scientists, educators, docents and volunteers field questions, lead tours, make referrals and share resources with thousands of interested people every month in person, by mail and across the Internet.

Some inquiries are quite specific, as in a recent letter from a second-grader: "Dear Museum ... Did the *Velociraptor* eat plant-eaters or meat-eaters?" Others are so general, such as "We are studying the earth ... please send me any facts having to do with [the Earth]," that our librarians call them "pull up the truck" questions, as in, pull up the truck, and we'll unload everything we've got.

Librarians answer these requests with a canny skill. While they will enclose an article or two on the topic, primarily they help young researchers learn to use information resources to find the answers themselves. A librarian's response might include an extensive bibliography on the topic, including video, CD-ROM and print media titles; a referral to a library; or a lesson in using a search engine to locate information on the World Wide Web.

Their efforts, and those of many other Academy of Sciences staff, are well rewarded. We are pleased to share some recent drawings sent in as thanks by some of our youngest visitors and program participants.



Kindergartners from Las Americas Community Center sent this drawing after a visit from the Supervan Community Outreach Program. These five- and six-year-olds know the difference between the spines and the tube feet on a sea cucumber; do you?



This mural was painted by a first-grade class from Rose Avenue School in Modesto. Donna Bakker's class visited Steinhart Aquarium this spring as part of their life sciences studies.

Have a natural science question? The librarians and volunteers in the Academy of Sciences' Biodiversity Resource Center, an environmental reference library near the Academy's front entrance, can be reached at 750-7361, or by fax at 750-7106. In addition, the library can be reached via electronic mail at [library@calacademy.org](mailto:library@calacademy.org).

## Folk Toys: The Playful Arts of Japan

Enjoy a new display of beautifully crafted Japanese folk toys made of brightly painted clay, grass, wood and other natural materials. "Folk Toys: The Playful Arts of Japan" features a specialized class of *mingei*, a Japanese term that means "arts of the people," and describes a wide range of traditional handmade items. Village artists took inspiration for toys from deities, historical characters, legends, the natural world and events relating to local Shinto and Buddhist shrines. Hiroyuki Kadota donated the traditional toys to the Academy's anthropology department between 1993 and 1996. The toys are said to bring good luck, health and happiness. The display will accompany "Weapons of Wa" and "Twines and Coils: Native California Baskets" in the Human Cultures Gallery, near Wattis Hall, through June 1997.



### TRADITIONAL ARTS

DURING THE MONTH OF OCTOBER, THE TRADITIONAL ARTS PROGRAM WILL HIGHLIGHT THE ART OF DANCE PERFORMED BY CHILDREN. PREMIER DANCE ENSEMBLES FROM THE BAY AREA PRESENT THEIR STUDENTS IN A CELEBRATION OF DANCE TRADITIONS PASSED ON FROM ELDERS TO CHILDREN.



Shahrazad Dance Ensemble

### Persian Dance

Shahrazad Dance Ensemble presents "Children of Persia" and performs classical and folk dances from various regions of Iran. The children will wear traditional costumes in their presentation. ☾ Sat., Oct. 5 — 1 p.m.

### Cambodian Dance

Formed in 1982 by Theap Kong, The Nagara Dhamma Temple Dance Group preserves Khmer culture and tradition through the performance of dance from the golden age of the Angkor Wat civilization of the 12th century. ☾ Sat., Oct. 12 — 1 p.m.



Little Russia Children's Dance Ensemble

### Russian Dance

To celebrate the company's fifth anniversary, members of Little Russia Children's Dance Ensemble perform "With Russia in Soul," a program of classical and folk dances. ☾ Sat., Oct. 26 — 1 p.m.

### African Dance

The Wajumbe Children's Dance Ensemble has been performing since 1986. Their repertoire includes dances from Central and West Africa, the Caribbean and South America. The ensemble will perform a selection of dances of African origin. ☾ Sat., Oct. 19 — 1 p.m.

Explore cultural traditions from around the world in these one-hour presentations held Saturdays in the auditorium. Free after general admission. Call 750-7165 for more information.



## Distant Star-Forming Galaxies

Most galaxies (star systems outside our Milky Way) are grouped in clusters. Our nearest neighbor cluster is the Virgo Cluster. From the ages of the stars in their galaxies, these clusters are thought to be very old; similar in age to the oldest stars in the Milky Way. In this lecture, Dr. E. Margaret Burbidge, professor emerita at the University of California, San Diego (UCSD), will discuss the data obtained recently with the Hubble Space Telescope that suggests the existence of a comparatively young galaxy cluster with new stars being formed in its galaxies.

Burbidge is an observational astronomer and works on the physical properties, energy sources and radiation mechanisms of quasars and active galaxies. She is the principal investigator of the UCSD contract with NASA



Dr. Margaret Burbidge

for the science and data analysis program for the Faint Object Spectrograph on the Hubble Space Telescope. She holds 12 honorary doctorate degrees, and was awarded the National Medal of Science in 1984 and the Albert Einstein World Award of Science Medal in 1988.

Tue., Oct. 22 — 7:30 p.m.  
Tickets: \$3 each

For tickets, please use the order form. Tickets may be available at the door on a standby basis. Call 750-7127 for more information. The B. Dean Astronomy Lecture Series continues with Dr. Geoff Marcy on "Discovering Planets Orbiting Stars," Nov. 19; and Dr. Max Dresden on "The Strange Way Quantum Theory Came to the U.S.," Dec. 10.

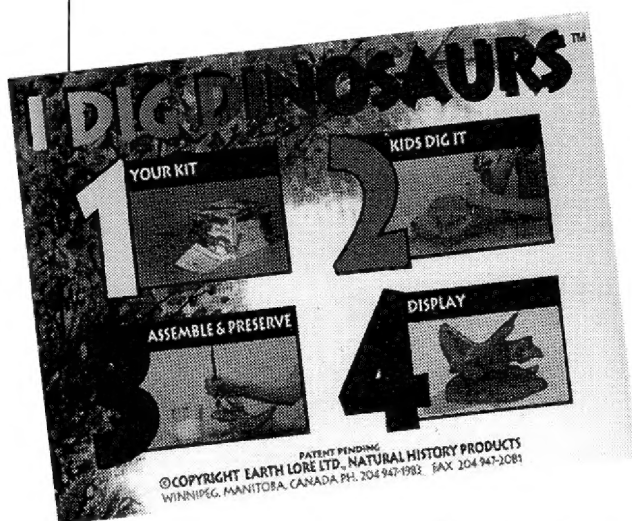
## PLANETARIUM

### OCTOBER SKY SHOWS

Sky Show/Description	Weekday	Weekend
<b>Other Worlds</b> <i>planets beyond our solar system</i>	2 p.m.	2 & 4 p.m.
<b>Lair of the Bear</b> <i>exploration of Ursa Major</i>	—	1 & 3 p.m.
<b>Neighbors in Space</b> <i>a family show</i>	—	11 a.m.
<b>StarTalk</b> <i>a tour of the night sky</i>	—	noon

Tickets can be purchased one half hour before the show at the box office once inside the Academy of Sciences (\$2.50 adults/\$1.25 for youth and seniors). Members must redeem their passes for tickets at the box office prior to the show. For more information, please call 750-7141.

## ACADEMY STORE



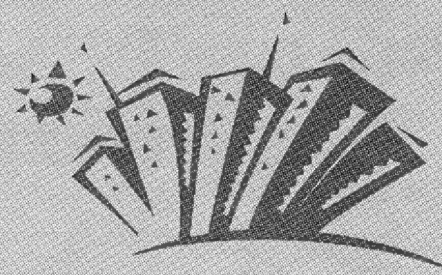
## I Dig Dinosaurs

If you dig dinosaurs, visit the Academy's "Jurassic Park Exhibit Store" located in the Jurassic exhibit in Wattis Hall. Come to the store to collect your very

own dinosaur digging kit. The "I Dig Dinosaurs™" kit lets you experience how archaeologists dig for dinosaurs. After you've dug up your very own dinosaur, you can assemble and preserve your dinosaur for display, just like a museum does.

"This is the most impressive dinosaur-related product I have seen. 'I Dig Dinosaurs™' is fun, realistic and educational," said Tim T. Tokaryk, paleontologist, Royal Saskatchewan Museum.

Collect all five excavation kits: *Triceratops*, *Pachycephalosaurus*, *T. Rex*, *Velociraptor* and the fossil replica kit with life-size teeth, toe, bone and claw. Now on sale for \$33.95 (less members' discount).



## DOWNTOWN SAN FRANCISCO LECTURE SERIES

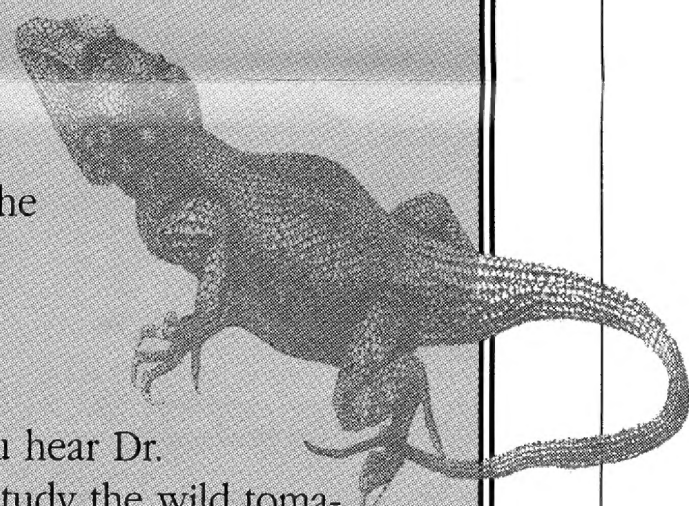
To make its resources easily available to the downtown San Francisco working crowd, the Academy of Sciences is continuing its series of lectures at San Francisco State University's Downtown Extension Center. The Fall 1996 Downtown Series features Fellows of the Academy of Sciences. The Fellows are a select group of eminent scientists representing the full range of disciplines within the natural sciences. They form the governing body of scientists whose predecessors founded the California Academy of Sciences 143 years ago. They are nominated by their colleagues and appointed by the Board of Trustees at the recommendation of the Academy's Science Council in recognition of their contributions to the growth of scientific knowledge.

### The Challenge of Life in Deep Sea Hydrothermal Vents & Toxic Mudflat Environments

Oct. 25 \* Dr. Alissa Arp has been studying the deep sea in submersibles for the past 10 years. Come hear her talk about the life that she has seen and studied in the hydrothermal vents found in areas previously not accessible to scientists. She also will talk about her research dealing with sulfide tolerance and detoxification in mudflat invertebrates.

### Amphibians & Reptiles of Iran

Nov. 1 \* Iran is geographically and biologically the most diverse region of Southwest Asia. The study of its herpetofauna provides clues to the interactions of biological, geographical and ecological factors in the historical development of the biodiversity of this complex region. Dr. Steve Anderson will discuss studies of the evolutionary relationships of organisms and of paleogeographical events that give us independent checks on the ecological history of an area.



### Chasing the Wild Tomato

Nov. 8 \* Tomatoes will take on a new meaning after you hear Dr. Charles M. Rick talk about his 15 Andean expeditions to study the wild tomato and its relatives. Because tomatoes self-pollinate and have had various evolutionary bottlenecks during migration and domestication, the genetic diversity of commercially produced tomatoes has become severely depleted. As a result, tomato breeders have sought desired traits in wild species and other exotics to protect crops from disease and insects, increase stress tolerance and improve quality and yield.

### The Ultimate Detective: Putting the Evolution Story Together

Nov. 15 \* The protein and DNA molecules of living and extinct animals are like fingerprints that are unique to each species. Using a technique known as radioimmunoassay, Dr. Jerry Lowenstein has researched fossil DNA to analyze the kinships of extinct animals including the Stellar's sea cow, South African quagga, Tasmanian wolf and Siberian mammoths. Lowenstein is currently working on a new, more sensitive test for ancient molecules that could detect minuscule amounts of residual protein in dinosaur bones, à la "Jurassic Park"!

### Creeping Up on Bay Area Faults

Nov. 22 \* Dr. Jon Galehouse and his research assistant at San Francisco State University have been regularly measuring the rate of surface movement (fault creep) on active faults in the greater San Francisco region for the past 17 years. They have discovered that while some faults are moving, others are not, and that the rate of creep has been altered some since the Loma Prieta earthquake in 1989. Find out how this research is conducted, and what the implications are after the results have been analyzed.

All lectures take place Friday evenings from 5:45 p.m. to 7:15 p.m. You may sign up for the entire series of five programs: \$45 members/\$55 nonmembers, or for individual lectures: \$10 members/\$12 nonmembers. The Downtown Center is located at 425 Market St. (at Fremont). Parking is available below the building for \$6 after 5 p.m. The center is near the Embarcadero and Montgomery BART and MUNI stations.



# OCTOBER

SUN	MON	TUE	WED	THU	FRI	SAT
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

- 5

Saturday

Persian Dance, 1 p.m. (Traditional Arts)
- 7

Monday

American Wetlands, A Cultural Evolution, 7:30 p.m. (Special Lectures)
- 9

Wednesday

Claiming the High Ground in Central Asia, 2 p.m. & 7:30 p.m. (Members Meeting)
- 12

Saturday

“The Dinosaurs of Jurassic Park” exhibit opens (Special Exhibit)

Members Breakfast With the Dinosaurs, 8 a.m. (Members Preview)

Cambodian Dance, 1 p.m. (Traditional Arts)

Junior Academy’s fall program begins
- 19

Saturday

“Birds and Beasts of Ancient Latin America” opens (Special Exhibit)

Turkish Carpet Weaving demonstrations daily through Oct. 27, 10 a.m. to 5 p.m. (Anthropology Program)

African Dance, 1 p.m. (Traditional Arts)
- 22

Tuesday

Conservation Leadership: Is the U.S. Still a Major Player? 7:30 p.m. (The Wildlife Talks)

Distant Star-Forming Galaxies, 7:30 p.m. (Astronomy Lecture)
- 23

Wednesday

The Aesthetics of Turkish Village Carpets, 7:30 p.m. (Anthropology Lecture)
- 24

Thursday

Dinosaurs of the Flaming Cliffs, 7:30 p.m. (Special Lectures)
- 25

Friday

Fifth Annual Halloween Party, 6:30 p.m. (Members Event)

The Challenge of Life in the Deep, 5:45 p.m. (Downtown Education Series)
- 26

Saturday

Russian Dance, 1 p.m. (Traditional Arts)
- 27

Sunday

Last day to view Turkish Carpet Weavers (Anthropology Program)
- 30

Wednesday

Japanese Paper Folk Toys,

## FUTURE DATES TO REMEMBER

**Nov. 1**, Amphibians & Reptiles of Iran (Downtown Education Series); **Nov. 8**, Chasing the Wild Tomato (Downtown Education Series); **Nov. 13**, Splendors of the Sea (Members Meeting); **Dec. 1**, 12th Annual Run to the Far Side; **Dec. 11**, Dinosaur Lecture & Members Special Holiday Shopping (Members Meeting).

## VISITOR INFORMATION

**Special Exhibitions:** “Birds and Beasts of Ancient Latin America,” through Jan. 1, “The Dinosaurs of Jurassic Park,” through Jan. 5. • **Feeding Times:** Fish Roundabout, 2 p.m.; Penguins, 11:30 a.m. & 4 p.m. • **Guided Tours:** Free one-hour high-light tours daily • **Laserium Shows:** Thu.–Sun. evenings. • **Free Day:** First Wed. of each month. • **Hours:** Open every day of the year. Winter hours 10 a.m.–5 p.m. Summer hours (Memorial Day weekend to Labor Day) 9 a.m.–6 p.m. • **Information:** Hotline (415) 750-7145, World Wide Web site

## ORDER FORM

## California Academy of Sciences

Golden Gate Park  
San Francisco, CA 94118-4599

Address Correction Requested  
TIME DATED MATERIAL

Nonprofit Organization  
U.S. Postage Paid  
Permit No. 3565  
San Francisco, CA

THE WILDLIFE TALK SERIES				SPECIAL LECTURES			
	Qty/Members	Qty/Nonmembers	Total		Qty/Members	Qty/Nonmembers	Total
Complete series of 4 lectures	x \$18	x \$30	=	American Wetlands, A Cultural Revolution / Oct. 7	X \$6	X \$10	=
Series plus receptions	x \$100	x \$145	=	Dinosaurs of the Flaming Cliffs / Oct. 24	X \$6	X \$10	=
<b>INDIVIDUAL TICKETS:</b>				<b>ANNUAL MEMBERS HALLOWEEN PARTY</b>			
Weber / Oct. 22					Qty/Members	Qty/Nonmembers	Total
Lecture only	x \$6	x \$10	=	Jumpin’ Jurassic Members			
Reception and lecture	x \$36	x \$45	=	Halloween Party / Oct. 25	X \$75	free	=
Gichohi / Jan. 28				<b>B. DEAN ASTRONOMY LECTURES</b>			
Lecture only	x \$6	x \$10	=		Quantity	Total	
Reception and lecture	x \$36	x \$45	=	Distant Star Forming Galaxies / Oct. 22	X \$3	=	
Kinnaird and O’Brien / April 8				Discovering Planets Orbiting Stars / Nov. 19	X \$3	=	
Lecture only	x \$6	x \$10	=	The Strange Way Quantum Theory			
Reception and lecture	x \$36	x \$45	=	Came to the U.S. / Dec. 10	X \$3	=	
Carr / June 10				<b>DONATIONS</b>			
Lecture only	x \$6	x \$10	=	<input type="checkbox"/> I would like to support the Academy of Sciences with a donation.			\$ _____
Reception and lecture	x \$36	x \$45	=				

**TOTAL PAYMENT ENCLOSED** \$ \_\_\_\_\_ ☐ Check (make payable to CAS)

☐ Visa ☐ MasterCard ☐ American Express (\$10 minimum on credit card orders)

Card Number \_\_\_\_\_ Exp. Date \_\_\_\_\_

Daytime Phone \_\_\_\_\_

Mail payment and order form to: Membership Office, Ticket Services, California Academy of Sciences, Golden Gate Park, San Francisco, CA 94118-4599

Include a self-addressed, stamped envelope for each series to which you subscribe. No refunds/exchanges.

## 12th Annual Run to the Far Side

If you miss your daily fix of Gary Larson’s Far Side cartoons, the 12th annual Run to the Far Side on Dec. 1 is the event for you. Pay tribute to Larson’s zany characters by participating in the costume contest open to 5K runners or walkers. Those more interested in slimming their waistline from the recent Thanksgiving dinner splurge, can sign up for the 10K run. All participants receive a Run to the Far Side T-shirt featuring an original Larson cartoon. Watch for registration information in the November newsletter, or call the race hotline at (415) 564-0532.



## JUNIOR ACADEMY We'll Immerse Your Kid in a Sea of Knowledge You'll Get Rid of the Smell of Fish!

Or squid. Or leaf mold. Or whatever else they’ve been getting up close and personal with in Junior Academy classes. We’ve got all kinds of hands-on, interactive science programs for ages 6 to 16 to choose from. Things like going behind the scenes at the Steinhart Aquarium, having fun with fungus at Pepperwood Nature Preserve in Sonoma County or exploring the San Francisco Bay by boat. Whatever they do, the stuff they learn is sure to linger with them a lot longer than the accompanying aroma. The fall program begins Oct. 12. For a copy of the class catalog, please call 750-7100.



## TURKISH CARPET WEAVING DEMONSTRATION

Two weavers from the DOBAG women’s cooperative in Western Turkey return to the Academy of Sciences to demonstrate the hand-knotting techniques of woolen pile carpets. Anatolian carpets have long been known for their bold, geometric designs and their rich palette of natural dyes. The technology has changed very little over the centuries; women still use the drop spindle to spin the yarn, and weave on the same type of loom as their ancestors. Village weavers today carry on this cultural legacy, weaving textile designs handed down from mother to daughter. The weavers’ visit is sponsored by Return to Tradition, the San Francisco gallery and outlet for DOBAG carpets.

Every day at 11 a.m. and 3 p.m. the weavers will hold a 15-min. demonstration of spinning on the drop spindle and the Turkish spinning wheel. Let the weavers teach you how to spin wool!

Daily, Oct. 19–27 (African Hall)  
Carpet Weaving, 10 a.m. to 5 p.m.  
Wool Spinning, 11 a.m. & 3 p.m.

### ANTHROPOLOGY LECTURE:

## The Aesthetics of Turkish Village Carpets

In conjunction with the carpet-weaving demonstrations, Dr. Serife Atlihan, professor of textile art at Marmara University in Istanbul, will present a slide-illustrated lecture. Atlihan will discuss the significance of today’s designs and motifs, many of which trace back to Central Asian origins in the distant past, and their meaning for the weavers in ceremonial and daily life.

Wed., Oct. 23 — 7:30 p.m. (Auditorium)  
Free admission to all.

**WHOTO CALL** ☎ Academy Info, 750-7145 • Academy Store, 750-7410 • Aquarium, 750-7247 • Biodiversity Center, 750-7361 • Development Office, 750-7216 • Docent Tours, 750-7155 • Education Office, 750-7100 • Group Admissions, 750-7159 • Job Hotline, 750-7333 • Laserium, 750-7138 • Special Lectures, 750-7128 • Library, 750-7102 • Membership Office, 750-7111 • Planetarium, 750-7141 • Planned Giving, 750-7216 • Receptionist, 221-5100 • Security, 750-7000 • Travel, 750-7348 • Volunteer Services, 750-7154 • Weekend Information, 750-7375

© 1996 California Academy of Sciences — EDITOR, Sheri Ketchum / LAYOUT, Johanna Dimayuga / PRINTING, Fruitridge Printing & Lithograph Inc. Printed on recycled paper with soy-based ink.

DEDICATED TO SCIENTIFIC RESEARCH & EDUCATION, INSPIRING RESPECT FOR THE NATURAL WORLD